

PATENT COOPERATION TREATY

REC'D 30 MAR 2005

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From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/IB2005/050010

International filing date (day/month/year)
03.01.2005

Priority date (day/month/year)
22.01.2004

International Patent Classification (IPC) or both national classification and IPC
H04N7/01, H04N7/36

Applicant
KONINKLIJKE PHILIPS ELECTRONICS N.V.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2005/050010

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2005/050010

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	3,10
	No: Claims	1,2,4-9
Inventive step (IS)	Yes: Claims	
	No: Claims	3,10
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

Reference is made to the following documents:

D1 : WO 01/45036 A (DYNAPEL SYSTEMS, INC) 21 June 2001 (2001-06-21)

D2 : US 5 982 440 A (AOKI ET AL) 9 November 1999 (1999-11-09)

D3 : EP 0 360 413 A (SONY CORPORATION) 28 March 1990 (1990-03-28)

V.1 INDEPENDENT CLAIMS

V.1.1 INDEPENDENT CLAIM 1

V.1.1 Novelty

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of **claim 1** is not new in the sense of Article 33(2) PCT. Document **D1** discloses (the references in parentheses applying to this document):

*A method for processing a video signal (page 3, lines 9-11), comprising the steps of:
creating a plurality of temporal interpolated frames (page 3, lines 9-11) between original
frames of the video signal (page 7, lines 5-7) using temporal interpolation (page 7, lines 18-
20);*

*temporally filtering (page 8, lines 1-4) said plurality of temporal interpolated frames and
original frames.*

V.1.2 Inventive step

Furthermore, the present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claim 1 does not involve an inventive step in the sense of Article 33(3)PCT.

The document **D2** is regarded as being the closest prior art to the subject-matter of **claim 1**, and discloses (the references in parentheses applying to this document):

*A method for processing a video signal (column 2, lines 20-23), comprising the steps of:
creating a plurality of temporal interpolated frames (column 4, lines 9-20) between*

original frames of the video signal (column 4, lines 9-20) using temporal interpolation (column 4, lines 45-49);

The subject-matter of **claim 1** therefore differs from this known **D2** in that the interpolated frames and original frames are temporally filtered.

The problem to be solved by the present invention may therefore be regarded as how to combine the original frames and the temporal interpolated frames to obtain less frames at the output.

The solution proposed in **claim 1** of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reason:

The person skilled in the art would consider document **D3**, which lies also in the field of video frame processing and which discloses a temporal filter (page 2, lines 50-52 and figure 1, numeral 44), which is carrying out both the interpolation and the temporal filtering by combining the frames. Therefore claim 1 is not considered as involving any inventive step.

V.1.2 INDEPENDENT CLAIM 9

The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent **claim 9**, where the accumulator is known from the closest prior art **D2** (see display buffer 302 in figure 4). Therefore claim 9 is also considered as not involving an inventive step.

V.2 DEPENDENT CLAIMS

Dependent **claims 2-8 and 10** do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, see documents **D1**, **D2** and **D3** and the corresponding passages cited in the search report.

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INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/B2005/050010

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	3,10
	No: Claims	1,2,4-9
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2. Citations and explanations

see separate sheet

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temporally filtering (page 8, lines 1-4) said plurality of temporal interpolated frames and original frames.

V.1.2 Inventive step

Furthermore, the present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claim 1 does not involve an inventive step in the sense of Article 33(3)PCT.

The document **D2** is regarded as being the closest prior art to the subject-matter of **claim 1**, and discloses (the references in parentheses applying to this document):

*A method for processing a video signal (column 2, lines 20-23), comprising the steps of:
creating a plurality of temporal interpolated frames (column 4, lines 9-20) between*

original frames of the video signal (column 4, lines 9-20) using temporal interpolation (column 4, lines 45-49);

The subject-matter of **claim 1** therefore differs from this known **D2** in that the interpolated frames and original frames are temporally filtered.

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